

REMARKS

By the present amendment, no claims have been cancelled, claims 1, 13, 14, 24 and 25 have been amended, and new claim 26 has been added. Accordingly, claims 1-26 are presently pending, and favorable reconsideration thereof is respectfully requested. Claims 1, 13, 14 and 24 are the independent claims.

Applicant wishes to thank the Examiner for the careful review of the present application and the prior art, and for the withdrawal of the previous rejections under 35 U.S.C. §102(e) and §103(a).

35 U.S.C. § 102(b): Claims 1-2, 9, 11-15, 22-23

The Examiner has rejected claims 1-2, 9, 11-15 and 22-23 as being anticipated by U.S. Patent No. 5,637,534 to Chou et al.

By the present amendment, independent claims 1, 13 and 14 have been amended to recite limitations similar to those recited in claim 24 as originally filed, which the Examiner did not reject under 35 U.S.C. § 102(b). Applicant therefore respectfully submits that the rejection of claims 1, 13 and 14 under 35 U.S.C. § 102(b) is overcome.

Claims 2, 9 and 11-12 are directly or indirectly dependent upon amended claim 1, and claims 15 and 22-23 are directly or indirectly dependent upon claim 14. Applicant therefore respectfully submits that the rejections of these claims under 35 U.S.C. § 102(b) are overcome due to their dependencies, as well as the additional subject-matter that each of these claims recites.

35 U.S.C. § 103(a): claims 3-5, 16-17 and 24-25

The Examiner has rejected claims 3-5, 16-17 and 24-25 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,367,534 to Chou et al. ("Chou"), in view of U.S. Patent No. 5,560,022 to Dunstan et al. ("Dunstan").

By the present amendment, previously dependent claim 24 has been re-written in independent form, including all of the limitations of base claim 14. Applicant respectfully notes that claim 24 as originally filed was considered to include all of the limitations of base claim 14 by virtue of 37 C.F.R. § 1.75(c), and therefore, the present amendment to claim 24 is not a narrowing amendment.

In addition, by the present amendment, independent claims 1, 13 and 14 have been amended to recite limitations similar to those recited in claim 24 as originally filed. Accordingly, in the following remarks, claim 24 is addressed first, for illustrative purposes.

Claim 24 recites an inter-bus communication system comprising an apparatus for controlling the flow of data units across a bus bridge, the apparatus comprising:

- a) a bridge monitor for monitoring operational states of the bridge; and
- b) a control circuit for disabling load access to the bridge when said bridge monitor detects a first predefined operational state at the bridge and for enabling load access to the bridge when said bridge monitor detects a second predefined operational state at the bridge; and

further including the bridge in communication with at least two data buses for transferring data between said at least two data buses.

The Examiner appears to have conceded that Chou fails to disclose a "bridge in communication with at least two data buses", as recited in claim 24 as filed, which was not rejected under 35 U.S.C. § 102. However, the Examiner has

expressed the view that it would have been obvious to combine Chou and Dunstan to arrive at the claimed invention.

Applicant respectfully submits that the Dunstan reference is non-analogous art, and cannot be relied upon under 35 U.S.C. § 103(a). In the alternative, even if the Dunstan reference is relied upon, Applicant respectfully submits that the proposed combination of Chou and Dunstan fails to satisfy the requirements for a *prima facie* case of obviousness. These submissions are discussed in greater detail below.

Chou discloses a synchronous flow control method. A synchronous modem 101 is used to receive data from a terminal 103, and to transmit the received data onto a channel 105 having a predefined channel rate. The synchronous modem 101 is coupled to the terminal 103 by means of a data path 107 and a clock signal path 109. To receive data from the terminal 103, the modem applies the clock signal 109 to the terminal 103; in response to which the terminal 103 begins transmitting data signals to the modem on the path 107. The modem 101 receives the data signals on the path 107 and stores them in a buffer 111. The modem 101 then begins transmitting the stored signals from the buffer 111 onto the channel 105 at the predefined channel rate. The rate at which the modem 101 receives the data from the terminal 103 is determined by the clock signal 109, and is faster than the channel rate, i.e. the rate at which the synchronous modem 101 transmits the data onto the channel 105, and accordingly, the quantity of data signals stored in the buffer 111 increases. When the quantity of data signals stored in the buffer exceeds a maximum threshold, the modem 101 ceases transmitting the clock signal 109 to the terminal 103, in response to which the terminal 103 ceases transmitting data to the modem 101. The modem 101 continues transmitting the contents of the buffer 111 to the channel 105, until the quantity of data signals stored in the buffer 111 is less than a minimum threshold, at which point the modem 101 resumes transmitting the clock signal 109 to the terminal 103, in response to which the terminal 103 resumes transmitting data to the modem 101.

Dunstan discloses a power management coordinator system and interface. A power management coordinator (PMC) 100 includes a plurality of software units or modules, which are programmable and provide a variety of different power management functions. Each add-in device to the system and its driver register with a PMC core module 110 of the PMC 100 in order to allow communication between the device and a power policy manager module 230 that provides instructions to the device regarding the currently selected power management policy of the system. Other modules of the PMC 100 include a thermal budgeter 250 for managing the devices of the system to control the internal heat production of the system, a power event sequencer module 220 for providing a proper sequence with which to notify the devices of the computer system of power management events, and a power budgeter module 240 for controlling the system's devices so that adequate power is maintained for requested operations (col. 3, line 63 – col. 4, line 16, and Fig. 4). A PCI bus bridge 25 is shown in Fig. 1 and is described as being a component of a computer system architecture which may incorporate the Dunstan invention (col. 4 line 58 – col. 5 line 23).

Applicant respectfully submits that the Dunstan reference is non-analogous art, and therefore cannot be relied upon under 35 U.S.C. § 103(a). In this regard, as noted in M.P.E.P. § 2141.01(a),

“In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

In the present case, the Dunstan reference is neither in the field of applicant’s endeavor, nor is it reasonably pertinent to the particular problem with which the present inventors were concerned. In this regard, with respect to the fields of applicant’s endeavor, the Dunstan reference, at col. 1, lines 6-8,

under the sub-heading "Field of the Invention", states that "The present invention relates to the field of power management and conservation within a computer system." In contrast, applicant's specification, at col. 1, lines 6-10, under the sub-heading "Field of the Invention", states, "This invention relates to communications between data buses and more particularly to control the flow of data units across a bus bridge and an inter-bus communications system employing same." Accordingly, the fields of endeavor of the Dunstan reference and the present application are quite different. In addition, the Dunstan reference is not reasonably pertinent to the particular problem with which the present inventors were concerned, such as the problems discussed in the Background section of applicant's specification at pages 1-2. In this regard, as noted above, the Dunstan reference is concerned with an entirely different problem than the present invention, namely, power management and conservation, rather than controlling the flow of data units across a bus bridge. Moreover, Dunstan expressly notes, at col. 5, lines 46-51, that "Coupled between the address/data lines 32 of the PCI bus and the host bus 20, a collection of buffers, denoted LBX buffers 34 are used to buffer data transfers between the two buses 20 and 30 and are not particularly pertinent to the present invention." Effectively, therefore, the Dunstan reference expressly acknowledges that it is not pertinent to data transfers between buses.

Accordingly, as the Dunstan reference is not in the same field of endeavor as applicant's invention, and is not reasonably pertinent to the problems solved by applicant's invention, applicant respectfully submits that the Dunstan reference is non-analogous art as defined in M.P.E.P. § 2141.01(a), and cannot be relied upon under 35 U.S.C. § 103(a).

For this reason alone, applicant respectfully requests that the rejection of claim 24 under 35 U.S.C. § 103(a) be withdrawn.

In the alternative, even if the Dunstan reference is relied upon by the Examiner, Applicant respectfully submits that the proposed combination of

Chou and Dunstan fails to satisfy the requirements for a *prima facie* case of obviousness in relation to claim 24. In this regard, the requirements for a *prima facie* case of obviousness have been well-established by the Court of Appeals for the Federal Circuit, and are concisely summarized in M.P.E.P. §§ 2142 and 2143, which state that three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant respectfully submits that at least the first of the above requirements for a *prima facie* case of obviousness is not satisfied in relation to claim 24, as the prior art fails to provide any motivation or suggestion to combine the Chou and Dunstan references. Chou relates to a synchronous flow control method, employing a synchronous modem 101 to receive data from a terminal 103 and to transmit the received data onto a channel 105 having a predefined channel rate. The Examiner has suggested that the aspect of Dunstan disclosed at col. 5, lines 17-23 be combined with Chou. More particularly, this passage of Dunstan discloses "The host/PCI bus bridge 25 monitors the host bus 20 and the PCI bus lines 31 and 32 and determines whether a transaction is designated for the computer system's main memory system 18 or whether a CPU request should be propagated down the hierarchy of buses, the next step being down to the PCI bus 30." However, Chou discloses only a single data transmitting device, namely, the terminal 103, which synchronously transmits data to the synchronous modem 101 only when the modem 101 is producing the clock signal 109. Thus, the modem 101 does not spontaneously or asynchronously receive data, but rather, receives synchronous data from the terminal 103 only when the modem 101 is

producing the clock signal 109 to cause the terminal 103 to transmit such synchronous data. Moreover, in the Chou system, all data signals transmitted by the terminal 103 are destined for the channel 105. Thus, in the Chou system, all data signals received at the synchronous modem 101 are designated for a single destination, namely, the channel 105, and therefore, there is no need to monitor the received signals to determine their destination. Accordingly, there is no motivation or suggestion to modify Chou to include the Dunstan et al. disclosure of a PCI bus bridge 25 monitoring a host bus 20 and PCI bus lines 31 and 32 to determine whether a transaction is designated for a computer system's main memory system 18 or whether a CPU request should be propagated down a hierarchy of buses.

Therefore, the proposed combination of Chou and Dunstan fails to satisfy at least the first of the above-noted requirements for a *prima facie* case of obviousness, as Chou and Dunstan fail to provide any motivation or suggestion to combine the references as suggested by the Examiner. Applicant therefore respectfully submits that a *prima facie* case of obviousness has not been established. For this additional reason, Applicant respectfully requests that the rejection of claim 24 be withdrawn.

Applicant also notes in passing that all of the cited references appear to be disadvantageous in comparison to the invention defined by claim 24. As discussed in applicant's specification, the use of a flow control apparatus and a bridge in communication with at least two data buses, as recited in claim 24, allows communication between buses in a manner that avoids corruption and loss of data. In contrast, the Chou reference is concerned with synchronous transmission of data from a single terminal 103 to a single channel 105, and fails to provide an inter-bus communication system at all, while Dunstan expressly states that it is not pertinent to data transfers between buses. Thus, Chou and Dunstan failed to appreciate the problems addressed by the invention recited in claim 24, and therefore, the solution to such problems recited in claim 24 cannot be obvious in view of these references. Yang et al. (U.S. Patent No., 6,097,698, cited by the Examiner in connection with claims

6-8, 10 and 18-20), disclose a cell loss balance system in which a control element discards received cells if the cell occupancy of the buffer exceeds a predetermined threshold level and a credit value, and thus, the Yang et al. system suffers from significant data loss disadvantages as compared to the invention recited in claim 24.

In summary, applicant respectfully submits that Dunstan is non-analogous art and cannot be considered under 35 U.S.C. § 103(a). In the alternative, even if Dunstan is considered, applicant respectfully submits that the proposed combination of Chou and Dunstan fails to disclose any motivation or suggestion to modify Chou, and therefore fails to satisfy the requirements for a *prima facie* case of obviousness.

Claim 25 is dependent upon claim 24. Applicant therefore respectfully submits that claim 25 is allowable due to its dependency, as well as the additional subject-matter that it recites.

Claims 3-5 are directly or indirectly dependent upon independent claim 1, and claims 16-17 are directly dependent upon independent claim 14. By the present amendment, claims 1 and 14 have been amended to recite limitations similar to those recited in claim 24. Applicant therefore respectfully submits that amended claims 1 and 14 are not obvious, for reasons similar to those discussed above in connection with claim 24. Thus, applicant respectfully submits that claims 3-5 and 16-17 are allowable due to their dependencies, as well as the additional subject-matter that each of these claims recites. It is therefore unnecessary to specifically address such additional subject-matter in detail. Applicant merely notes in passing that there is no motivation or suggestion to modify Chou to provide the "monitoring" limitations recited in claims 3-5 and 16-17, as discussed in greater detail above on pages 12-13 of the present response.

35 U.S.C. § 103(a): claims 6-8, 10 and 18-20

The Examiner has rejected claims 6-8, 10 and 18-20 under 35 U.S.C. § 103(a) as being unpatentable over Chou in view of U.S. Patent No. 6,097,698 to Yang et al. ("Yang").

Claims 6-8 and 10 are indirectly dependent upon amended claim 1, and claims 18-20 are indirectly dependent upon amended claim 14. Applicant respectfully submits that amended claims 1 and 14 have been shown to be allowable above under the previous heading, and applicant therefore respectfully submits that claims 6-8, 10 and 18-20 are allowable due to their dependencies, as well as the additional subject-matter that each of these claims recites.

Fees

By the present amendment, previously dependent claim 24 has been re-written in independent form, thereby increasing the number of independent claims by one (to a total of four). In addition, new dependent claim 26 has been added, thereby increasing the total number of claims by one. Accordingly, applicant encloses a check in the amount of \$102.00 as payment of the excess claim fees pursuant to 37 C.F.R. § 1.16(b) and (c). The Commissioner is hereby authorized to charge any deficiency or credit any overpayment to deposit account no. 06-0713.

Conclusion

In view of the foregoing, Applicant respectfully submits that the present application is now in condition for allowance, and respectfully requests that a Notice of Allowance be issued. Applicant respectfully notes that the present application has now been pending for nearly five years, at least partly due to an internal error in the USPTO resulting in the misplacement or loss of applicant's response to the previous office action, resulting in a Notice of Abandonment, and necessitating a Petition to Withdraw the Holding of Abandonment. However, the present application is not eligible for a patent term extension, due to its filing date. Accordingly, should the Examiner have

any outstanding concerns, the Examiner is respectfully requested to contact the undersigned agent by telephone at the Examiner's earliest convenience, to expedite the prosecution of this application.

Respectfully submitted,



Stephen J. Ferance
Stephen J. Ferance, Reg. No. 48,090
SMART & BIGGAR
Box 11560 Vancouver Centre
2200 – 650 West Georgia Street
Vancouver, British Columbia
Canada V6B 4N8
Telephone: 604-682-7780

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Encl.: Check for \$102.00 for excess claim fees.